

We Claim:

1. An image pickup device comprising:

a photoelectric sensor having pixels arranged in the vertical and horizontal directions for converting the light focused on the pixels to electric pixel signals, the pixel signals accumulated in each pixels are outputted with interlace by subsampling the pixel signals for every one line in a first signal read mode, and a sum of the pixel signals in the two pixels adjoining each other in the vertical direction are sequentially outputted in a second signal read mode;

an interlace/non-interlace converter for converting the signals with the interlace, which output from the photoelectric sensor in the first signal read mode, to a non-interlaced signal;

a signal processor for generating a first video signal by converting the non-interlaced signal converted by the interlace/non-interlace converter into a specified image format in the first signal read mode, and generating a second video signal by converting the signal output by the photoelectric sensor into the specified image format;

a rate converter for converting the number of the output images of the second video signal per a unit time into another number;

an encoder for generating a first or second image data by compressing the first or second video signals output from the signal processor;

a memory device for memorizing the first or second image data output from the encoder; and

a decoder for reproducing the first video signal by decoding

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the first image data memorized in the memory device.

2. The image pickup device of Claim 1, wherein said interlace/non-interlace converter and said rate converter comprises a memory for storing said signals output from the photoelectric sensor, and a memory controller for controlling writing and reading addresses and timings.

3. The image pickup device of Claim 1, wherein said first video signal is a still image signal representing one still image, and second video signal is a motion image signal having a plurality of continuous images of a motion picture.

4. The image pickup device of Claim 3, wherein an effective pixel number of said photoelectric sensor in vertical direction for generating the motion picture approximates multiplication by an integer of the effective number of scanning lines in the television signal standard.

5. The image pickup device of Claim 1, wherein said first and second image data are still image data each representing one still image.

6. The image pickup device of Claim 1, wherein said arrangement of said pixels on said photoelectric sensor has a cycle of a units of two rows in the vertical direction and four lines in the horizontal direction, the pixels of the first color and the pixels of the second color are arranged alternately in the first lines, the pixels of the third color and the pixels of the fourth color

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are arranged alternately in the second lines, the pixels of the second color and the pixels of the first color are arranged alternately in the third lines, and the pixels of the third color and the pixels of the fourth color are arranged alternately in the fourth lines.

7. The image pickup device of Claim 6, wherein said first color is magenta, said second color is green, said third color is cyan, and said fourth color is yellow.

8. The image pickup device of Claim 6, wherein said first color is red, said second color is green, said third color is blue, and said fourth color is green.

9. The image pickup device of Claim 6, wherein an effective pixel number of said photoelectric sensor in vertical direction approximates multiplication by an integer of the effective number of scanning lines in the television signal standard.

10. The image pickup device of Claim 9, wherein said effective pixel number of said photoelectric sensor is from 920 to 1020.

11. A image pickup device comprising:

a photoelectric sensor having pixels arranged in the vertical and horizontal directions for converting the light focused on the pixels to electric pixel signals, the pixel signals accumulated in each pixels are outputted with interlace by subsampling the pixel signals for every one line in a first signal read mode, and a sum of the pixel signals in the two pixels

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adjoining each other in the vertical direction are sequentially outputted in a second signal read mode;

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an interlace/non-interlace converter for converting the signals with the interlace, which output from the photoelectric sensor in the first signal read mode, to a non-interlaced signal;

a signal processor for generating a first video signal by converting the non-interlaced signal converted by the interlace/non-interlace converter into a specified image format in the first signal read mode, and generating a second video signal by converting the signal output by the photoelectric sensor into the specified image format;

a rate converter for converting the number of the output images of the second video signal per a unit time into another number;

an encoder for generating a first or second image data by compressing data volume in frames of the first or second video signals output from the signal processor by a first compressing method, and generating a third image data by compressing data volume in frames of the second video signals output from the signal processor by a second compressing method;

a memory device for memorizing the first or second image data and the third image data that are output from the encoder; and

a decoder for reproducing the first or second video signal and a third video signal by decoding the first or second image data and the third image data that are memorized in the memory device.

12. The image pickup device of Claim 11, wherein said

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interlace/non-interlace converter and said rate converter comprises a memory for storing said signals output from the photoelectric sensor, and a memory controller for controlling writing and reading addresses and timings.

13. The image pickup device of Claim 11, wherein said first video signal is a still image signal representing one still image, and second video signal is a motion image signal having a plurality of continuous images of a motion picture.

14. The image pickup device of Claim 13, wherein an effective pixel number of said photoelectric sensor in vertical direction for generating the motion picture approximates multiplication by an integer of the effective number of scanning lines in the television signal standard.

15. The image pickup device of Claim 11, wherein said first and second image data are still image data each representing one still image, and said third image data is a motion image data representing a plurality of continuous images of a motion picture.

16. The image pickup device of Claim 11, wherein said arrangement of said pixels on said photoelectric sensor has a cycle of a units of two rows in the vertical direction and four lines in the horizontal direction, the pixels of the first color and the pixels of the second color are arranged alternately in the first lines, the pixels of the third color and the pixels of the fourth color are arranged alternately in the second lines, the pixels of the second color and the pixels of the first color

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are arranged alternately in the third lines, and the pixels of the third color and the pixels of the fourth color are arranged alternately in the fourth lines.

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17. The image pickup device of Claim 16, wherein said first color is magenta, said second color is green, said third color is cyan, and said fourth color is yellow.

18. The image pickup device of Claim 16, wherein said first color is red, said second color is green, said third color is blue, and said fourth color is green.

19. The image pickup device of Claim 16, wherein an effective pixel number of said photoelectric sensor in vertical direction approximates multiplication by an integer of the effective number of scanning lines in the television signal standard.

20. The image pickup device of Claim 19, wherein said effective pixel number of said photoelectric sensor is from 920 to 1020.